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Towards heterogeneous robot team path planning: Acquisition of multiple routes with a modified spline-based algorithm

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Abstract

© 2017 The Authors. Our research focuses on operation of a heterogeneous robotic group that carries out point-to point navigation in GPS-denied dynamic environment, applying a combined local and global planning approach. In this paper, we introduce a homotopy-based high-level planner, which uses a modified splinebased path-planning algorithm. The algorithm utilizes Voronoi graph for global planning and a set of optimization criteria for local improvements of selected paths. The simulation was implemented in Matlab environment.

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